

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method of recording marks representing data in an information layer of a record carrier, the method comprising the acts of:

irradiating the information layer, and

writing a mark by a sequence of one or more write pulses, said information layer having a phase reversibly changeable between a crystalline phase and an amorphous phase, and

irradiating the information layer in between the sequences of one or more write pulses by a radiation beam having an erase power level,

wherein at least one of the write pulses in said sequence of two or more write pulses other than a first write pulse in said sequence consists of n portions, n being an integer number larger

than 1, the  $i$ -th portion having an  $i$ -th write power level,  $i$  being an integer number in the range between 1 and  $n$ , the  $i$ -th portion preceding the  $(i+1)$ -th portion, and wherein the  $i$ -th write power level is lower than the  $(i+1)$ -th write power level, the first write pulse having a constant power level,

wherein the erase power level is higher than a first write power level of the first write pulse and is lower than an  $n$ -th write power level in a last portion of the write pulses,

wherein the  $n$ -th power level is immediately followed by a further write power level, the further write power level being lower than the erase power level, and

wherein there is no decrease in a power level between the first write power level and the  $n$ -th write power level.

Claim 2 (Canceled)

3. (Previously Presented) The method as claimed in claim 1, wherein at least one of the write pulses in said sequence of two or more write pulses consists of  $n$  portions of substantially the same duration.

4.(Previously Presented) A method of recording marks representing data in an information layer of a record carrier, the method comprising the acts of:

writing a mark by a sequence of one or more write pulses, said information layer having a phase reversibly changeable between a crystalline phase and an amorphous phase; and

irradiating the information layer in between the sequences of one or more write pulses by a radiation beam having an erase power level, the erase power level being higher than a first write power level in a first portion of a write pulse of the one or more write pulses and being lower than an n-th write power level in a last portion of the write pulse, wherein the n-th power level is immediately followed by a further write power level, the further write power level being lower than the erase power level, wherein there is no decrease in a power level between the first write power level and the n-th write power level.

5.(Previously Presented) A method of recording marks representing data in an information layer of a record carrier, the

method comprising the acts of:

irradiating the information layer, and

writing a mark by a sequence of one or more write pulses, said information layer having a phase reversibly changeable between a crystalline phase and an amorphous phase, wherein at least one of the write pulses in said sequence of one or more write pulses comprises a write power level which continuously increases as a ramp function.

6. (Previously Presented) The method as claimed in claim 5, wherein the at least one of said at least one of the write pulses in said sequence of one or more write pulses also comprises a rear portion having a constant write power level, said constant write power level being higher than or equal to the highest write power level in a front portion including the ramp function.

7. (Previously Presented) A method of recording marks representing data in an information layer of a record carrier, the method comprising the acts of:

writing a mark by a sequence of write pulses, said information

layer having a phase reversibly changeable between a crystalline phase and an amorphous phase; and

irradiating the information layer in between the sequences of one or more write pulses by a radiation beam having an erase power level, the erase power level being higher than a lowest write power level of a write pulse of the write pulses and being lower than a highest write power level of the write pulse, wherein the highest write power level is immediately followed by a further write power level, the further write power level being lower than the erase power level, wherein there is no decrease in a power level between the lowest write power level and the highest write power level.

8. (Currently Amended) A recording apparatus for recording marks representing data in an information layer of a record carrier by irradiating the information layer by means of a pulsed radiation beam, each mark being written by a sequence-sequences of one-two or more write pulses, said information layer having a phase reversibly changeable between a crystalline phase and an amorphous phase, the apparatus comprising:

a radiation source for providing the pulsed radiation beam,

and

a control unit operative for controlling the power of the pulsed radiation beam and for providing the sequences of write pulses for recording the marks,

wherein the control unit is operative for controlling the power of the pulsed radiation beam such that when a mark is recorded by a ~~the~~ sequence of two of more write pulses, and for irradiating the information layer in between the sequences of write pulses by a radiation beam having an erase power level,

wherein at least one of the write pulses in said sequence of two or more write pulses other than a first write pulse in the sequence consists of  $n$  portions,  $n$  being an integer number larger than 1, the  $i$ -th portion having an  $i$ -th write power level,  $i$  being an integer number in the range between 1 and  $n$ , the  $i$ -th portion preceding the  $(i+1)$ -th portion, and the  $i$ -th write power level being lower than the  $(i+1)$ -th write power level, the first write pulse having a constant power level,

wherein the erase power level is higher than a first write power level of the first write pulse and is lower than an  $n$ -th write power level in a last portion of the write pulses,

wherein the n-th power level is immediately followed by a further write power level, the further write power level being lower than the erase power level, and

wherein there is no decrease in a power level between the first write power level and the n-th write power level.

Claim 9 (Canceled)

10. (Previously Presented) A recording apparatus for recording marks representing data in an information layer of a record carrier by irradiating the information layer by means of a pulsed radiation beam, each mark being written by a sequence of one or more write pulses, said information layer having a phase reversibly changeable between a crystalline phase and an amorphous phase, the device comprising:

a radiation source for providing the pulsed radiation beam,  
and

a control unit operative for controlling the power of the pulsed radiation beam and for providing the sequences of write pulses for recording the marks, wherein the control unit is

operative for controlling the power of the pulsed radiation beam such that at least one of the write pulses in said sequence of one or more write pulses comprises a write power level which continuously increases as a ramp function.

11. (Previously Presented) The method of claim 5, wherein said write power level continuously increases at least one of linearly and a higher-order function including a parabolic function or an exponential function.

12. (Previously Presented) The recording apparatus of claim 10, wherein said write power level continuously increases at least one of linearly and a higher-order function including a parabolic function or an exponential function.

13. (Previously Presented) A method of recording a mark on a record carrier comprising the act of irradiating the record carrier with a sequence of pulses for writing the mark, wherein the sequence of pulses includes at least one of a pulse continuously increasing as a ramp function, and a combination of a block-shaped



pulse and a staircase-shaped pulse.

14. (Previously Presented) The method of claim 13, wherein the staircase-shaped pulse includes a last portion having a larger duration than a previous portion.

15. (Previously Presented) The method of claim 13, wherein the staircase-shaped pulse includes a last portion having twice a duration of a previous portion and twice a level of the previous portion.

16. (Previously Presented) The method of claim 13, wherein a first pulse of the sequence of pulses has a first part at a beginning of the first pulse with a write power level which is at least one above and below an erase power level used in between sequences of the pulses for erasing a previously recorded mark.

17. (Previously Presented) A recording apparatus for recording a mark on a record carrier comprising means for irradiating the record carrier with a sequence of pulses for writing the mark,

wherein the sequence of pulses includes at least one of a pulse continuously increasing pulse increasing as a ramp function, and a combination of a block-shaped pulse and a staircase-shaped pulse.

18. (Previously Presented) The recording apparatus of claim 17, wherein the staircase-shaped pulse includes a last portion having a larger duration than a previous portion.

19. (Previously Presented) The recording apparatus of claim 17, wherein the staircase-shaped pulse includes a last portion having twice a duration of a previous portion and twice a level of the previous portion.

20. (Previously Presented) The recording apparatus of claim 17, wherein a first pulse of the sequence of pulses has a first part at a beginning of the first pulse with a write power level which is at least one above and below an erase power level used in between sequences of the pulses for erasing a previously recorded mark.

21. (Currently Amended) A recording apparatus for recording a mark on a record carrier comprising a source controlled to irradiate the record carrier with a sequence of pulses for writing the mark, wherein the sequence of pulses includes ~~at least one of~~ an increasing pulse which continuously increases as a ramp function, ~~and a combination of a block-shaped pulse and a staircase-shaped pulse.~~

22. (Previously Presented) The recording apparatus of claim 21, wherein the staircase-shaped pulse includes a last portion having a larger duration than a previous portion.

23. (Previously Presented) The recording apparatus of claim 21, wherein the staircase-shaped pulse includes a last portion having twice a duration of a previous portion and twice a level of the previous portion.

24. (Previously Presented) The recording apparatus of claim 21, wherein a first pulse of the sequence of pulses has a first part at a beginning of the first pulse with a write power level

which is at least one above and below an erase power level used in between sequences of the pulses for erasing a previously recorded mark.

25. (Previously Presented) The recording apparatus of claim 21, wherein the increasing pulse includes an end portion having a constant level.